**Permit #: #28.1121-02C** 

**Effective Date:** Draft



Steven M Pirner, Secretary Department of Environment and Natural Resources

## Under the South Dakota Air Pollution Control Regulations

Pursuant to Chapter 34A-1-21 of the South Dakota Codified Laws and the Air Pollution Control Regulations of the State of South Dakota and in reliance on statements made by the owner designated below, a permit to construct and operate is hereby issued by the Secretary of the Department of Environment and Natural Resources. This permit authorizes such owner to construct and operate the permitted unit(s) at the location designated below and under the listed conditions.

#### A. Owner

- Company Name and Mailing Address GCC Dacotah PO Box 360 Rapid City, South Dakota 57709
- Actual Source Location if Different from Above 501 North St. Onge Rapid City, South Dakota 57702
- 3. Permit Contact Gene Nelson, Environmental Specialist 605-721-7100
- 4. Facility Contact Same as above
- 5. Responsible Official Steve Post, Plant Manager 605-721-7100

#### **B.** Permit Revisions

Not applicable

## C. Type of Operation

Storage silo and two baghouses for transfer, loading, and unloading of cement kiln dust from alkali bypass.

Draft i

# **Table of Contents**

			Page	
1.0	STA	ANDARD CONDITIONS	1	
1.0	1.1	Construction and operation of source		
	1.2	Duty to comply		
	1.3	Property rights or exclusive privileges		
	1.4	Penalty for violating a permit condition		
	1.5	Inspection and entry		
	1.6	Severability		
	1.7	Credible evidence.		
2.0	CO	CONSTRUCTION AND OPERATING PERMIT DEADLINES3		
	2.1	Commence construction		
	2.2	Submit operating permit application		
3.0	PEI	RMIT REVISIONS	3	
	3.1	Administrative permit amendment		
	3.2	Reopening permit.		
4.0	RE	CORDKEEPING AND REPORTING	4	
1.0	4.1	Recordkeeping and reporting	4	
	4.2	Construction date notification	4	
	4.3	Initial startup notification	4	
	4.4	Certification statement	4	
	4.5	Reporting permit violations	5	
5.0	CONTROL OF REGULATED AIR POLLUTANTS5			
	5.1	Visibility limit	5	
	<b>5.2</b>	Visibility exceedances	5	
	5.3	Particulate matter less than 10 microns emission limit	5	
	<b>5.4</b>	Total suspended particulate matter limits	6	
	5.5	Circumvention not allowed		
	<b>5.6</b>	Minimizing emissions.	6	
6.0	PEI	RFORMANCE TESTS	6	
	6.1	Performance test may be required	6	
	6.2	Test methods and procedures	6	
	6.3	Representative performance test	7	
	6.4	Submittal of test plan		
	6.5	Notification of test	7	
	6.6	Performance test report	7	

# **Table of Contents**

			Page
7.0	MA	ACT – SUBPART LLL for Portland Cement Plants	8
	<b>7.1</b>	Opacity limit	8
	7.2	Operation and maintenance plan requirements	8
	7.3	Initial compliance requirements - opacity	8
	7.4	Monthly monitoring for opacity limits.	
	7.5	Recordkeeping requirements.	
	<b>7.6</b>	Reporting requirements	
8.0	RE	COMMENDATION	10

## 1.0 STANDARD CONDITIONS

### 1.1 Construction and operation of source.

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:20:15(9), the owner or operator shall construct and operate the units, controls, and processes as described in Table 1-1 in accordance with the statements, representations, and supporting data contained in the complete permit application submitted and dated August 15, 2011, unless modified by the conditions of this permit. Except as otherwise provided herein, the control device in Table 1-1 shall be operated in manner that achieves compliance with the conditions of this permit at all times. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in an application, such information shall be promptly submitted.

Table 1-1 – Description of Permitted Units, Operations, and Processes

Unit		Description of Process	Maximum Operating Rate	Control Device	Maximum Flow Rate <sup>1</sup>
68	EDC850	Alkali bypass dust and cement storage silo - Silo 39	500 tons per hour	Baghouse	2,100 acfm
69	EDC851	Kiln dust, Silo 39, transfer to truck load out	60 tons per hour	Baghouse	1,300 acfm

<sup>&</sup>lt;sup>1</sup> – "acfm" means actual cubic feet per minute

## 1.2 **Duty to comply.**

In accordance with ARSD 74:36:20:15(12)(a) and (c), the owner or operator shall construct and operate in compliance with the conditions of this permit. An owner or operator who knowingly makes a false statement in any record or report or who falsifies, tampers with, or renders inaccurate, any monitoring device or method is in violation of this permit. A violation of any condition in this permit is grounds for enforcement, reopening this permit, permit termination, or denial of an application to operate. The owner or operator, in an enforcement action, cannot use the defense that it would have been necessary to cease or reduce the permitted activity to maintain compliance. The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit.

## 1.3 **Property rights or exclusive privileges.**

In accordance with ARSD 74:36:20:15(12)(b), the issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant the owner's or operator's compliance with this

permit, design criteria, approved plans and specifications, and operation under this permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The owner or operator is solely and severally liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

## 1.4 Penalty for violating a permit condition.

In accordance with South Dakota Codified Laws (SDCL) 34A-1-39 and 34A-1-47, a violation of a permit condition may subject the owner or operator to civil or criminal prosecution, a state penalty of not more than \$10,000 per day per violation, injunctive action, administrative permit action, and other remedies as provided by law.

## 1.5 <u>Inspection and entry.</u>

In accordance with SDCL 34A-1-41, the owner or operator shall allow the Secretary to:

- 1. Enter the premises where a regulated activity is located or where pertinent records are stored;
- 2. Have access to and copy any records that are required under this permit;
- 3. Inspect the construction and operations regulated under this permit; and/or
- 4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

#### 1.6 Severability.

In accordance with ARSD 74:36:20:15(11), any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

#### 1.7 Credible evidence.

In accordance with ARSD 74:36:13:07, credible evidence may be used for the purpose of establishing whether the owner or operator has violated or is on violation of this permit. Credible evidence is as follows:

- 1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at the source:
  - a. A monitoring method approved for the source pursuant to 40 CFR § 70.6(a)(3) and incorporated in this permit; or
  - b. Compliance methods specified in an applicable plan;
- 2. The following testing, monitoring, or information gathering methods are presumptively credible testing, monitoring, or information-gathering methods:
  - a. Any monitoring or testing methods approved in this permit, including those in 40 CFR Parts 51, 60, 61, and 75; or
  - b. Other testing, monitoring, or information-gathering methods that produce information comparable to that produced by any method in section (1) or (2)(a).

## 2.0 CONSTRUCTION AND OPERATING PERMIT DEADLINES

## 2.1 <u>Commence construction.</u>

In accordance with ARSD 74:36:20:21, this permit becomes invalid if the owner or operator has not commenced construction within 18 months of the effective date of this permit; discontinued construction for a period of 18 months or more; or construction is not completed within 10 years of the effective date of this permit.

## 2.2 Submit operating permit application.

In accordance with ARSD 74:36:20:20, the owner or operator shall submit a complete permit application for an operating permit pursuant to ARSD 74:36:05. A complete permit application for a Title V air quality operating permit modification shall be submitted within 12 months after the initial startup of the baghouse associated with EDC850 in Table 1-1. For the purpose of this permit condition, initial startup means the first time the baghouse collects dust from the permitted operation.

#### 3.0 PERMIT REVISIONS

## 3.1 Administrative permit amendment.

In accordance with ARSD 74:36:20:16 and 74:36:20:17, the Secretary shall determine whether an administrative permit amendment is applicable to a proposed revision within 15 days from receiving a request for a permit revision. The Secretary shall issue an administrative permit amendment without the procedural requirements applicable to obtaining this construction permit. As provided in ASRD 74:36:01:03, the Secretary considers a proposed revision an administrative permit amendment if the proposed revision accomplishes one of the following:

- 1. Corrects typographical errors;
- 2. Changes the name, address, or phone number of any person identified in this permit or provides a similar minor administrative change at the source;
- 3. Requires more frequent monitoring or reporting by the source;
- 4. The ownership or operational control of a source changes and the Secretary determines that no other change in this permit is necessary. However, the new owner must submit a certification of applicant form and a written statement specifying the date for transfer of operating permit responsibility, coverage, and liability; or
- 5. Any other change that the Secretary determines to be similar to those requirements in this condition.

## 3.2 Reopening permit.

In accordance with ARSD 74:36:20:18 and 74:36:20:19, the Secretary may reopen this permit for further review if the Secretary determines the permit contains a material mistake in establishing the emissions standard or limits or other requirements of the construction permit or the Secretary determines the construction permit must be revised to ensure compliance with the applicable requirements of ARSD 74:36 and the federal Clean Air Act. The Secretary shall

notify the owner or operator 30 days prior to reopening a construction permit or in a shorter time period in an emergency. The reopening of this construction permit shall follow the same procedural requirements to issue a construction permit and shall affect only those parts of the permit for which cause to reopen exist.

#### 4.0 RECORDKEEPING AND REPORTING

## 4.1 Recordkeeping and reporting.

In accordance with ARSD 74:36:20:15(10), the owner or operator shall maintain all monitoring data, records, reports, and pertinent information specified by this permit for five years from the date of sample, measurement, report, or application. The records shall be maintained on site for the first two years and may be maintained off site for the last three years. All records must be made available to the Secretary for inspection. All notifications and reports shall be submitted to the following address:

South Dakota Department of Environment and Natural Resources PMB 2020, Air Quality Program 523 E. Capitol, Joe Foss Building Pierre, SD 57501-3181

## 4.2 Construction date notification.

In accordance with ARSD 74:36:20:15(10), the owner or operator shall notify the Secretary of the date construction commences on the permitted operation. The notification shall be postmarked within 15 days after the date construction commenced.

#### 4.3 Initial startup notification.

In accordance with ARSD 74:36:20:15(10), the owner or operator shall notify the Secretary of the actual date of the initial startup of the the baghouse associated with EDC850 in Table 1-1. The notification shall be postmarked within 15 days after the date of initial startup. For the purpose of this permit condition, initial startup means the first time the baghouse collects dust from the permitted operation.

## 4.4 Certification statement.

In accordance with ARSD 74:36:20:15(10), all documents required by this permit, including application forms, reports, and compliance certification, must be certified by a responsible official or a duly authorized representative. The certification shall include the following statement:

"I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document and all attachments are true, accurate, and complete."

## 4.5 Reporting permit violations.

In accordance with ARSD 74:36:20:15(10), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation may be reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-5286.

A written report shall be submitted within five days of discovering the permit violation. Upon prior approval from the Secretary, the submittal deadline for the written report may be extended up to 30 days. The written report shall contain:

- 1. A description of the permit violation and its cause(s);
- 2. The duration of the permit violation, including exact dates and times; and
- 3. The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

#### 5.0 CONTROL OF REGULATED AIR POLLUTANTS

#### 5.1 Visibility limit.

In accordance with ARSD 74:36:12:01, the owner or operator may not discharge into the ambient air an air contaminant of a density equal to or greater than that designated as 20 percent opacity from any permitted unit, operation, or process listed in Table 1-1, unless otherwise specified in this permit. This provision does not apply when the presence of uncombined water is the only reason for failure to meet the requirement.

### 5.2 Visibility exceedances.

In accordance with ARSD 74:36:12:02, an exceedance of the operating limit in permit condition 5.1 is not considered a violation during brief periods of soot blowing, start-up, shutdown, or malfunctions. A malfunction is described as any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator of the source is not a malfunction and is considered a violation.

## 5.3 Particulate matter less than 10 microns emission limit.

In accordance with ARSD 74:36:20:15(9), as referenced to permit condition 4.1 of permit 28.1101-PSD, the owner or operator shall limit air emissions of particulate less than or equal to 10 microns in diameter (PM10) from the permitted units to less than or equal to the emission limits in Table #5-1.

Table #5-1 – PM10 Emission Limits

Unit	PM10 Emission Limit <sup>1</sup>	
68	0.01 grains per dry standard cubic foot	

## 5.4 <u>Total suspended particulate matter limits.</u>

In accordance with ARSD 74:36:06:02(1) and/or ARSD 74:36:06:03(1), the owner or operator shall not allow the emission of total suspended particulate matter in excess of the emission limit specified in Table 5-1 for the appropriate permitted unit, operations, and process.

Table 5-1 – Total Suspended Particulate Emission Limit

Unit		Description of process	Emission limit
69	EDC851	Kiln dust, Silo 39, truck load out baghouse	35.4 pounds per hour

## 5.5 <u>Circumvention not allowed.</u>

In accordance with ARSD 74:36:20:24, the owner or operator may not install, use a device, or use a means that conceals or dilutes an air emission that would otherwise violate this permit. This includes operating a unit or control device that emits air pollutants from an opening other than the designed stack, vent, or equivalent opening.

## 5.6 <u>Minimizing emissions.</u>

In accordance with ARSD 74:36:20:15(9), the owner or operator shall at all time, when practicable, maintain and operate all permitted units in a manner that minimizes air pollution emissions.

#### 6.0 PERFORMANCE TESTS

#### 6.1 Performance test may be required.

In accordance with ARSD 74:36:11:02, the Secretary may request a performance test. A performance test shall be conducted while operating the unit at or greater than 90 percent of its maximum design capacity, unless otherwise specified by the Secretary. A performance test that is conducted while operating at less than 90 percent of its maximum design capacity will result in the operation being limited to the percent achieved during the performance test. The Secretary has the discretion to extend the deadline for completion of the performance test required by the Secretary if circumstances reasonably warrant but will not extend the deadline past a federally required performance test deadline.

## 6.2 Test methods and procedures.

In accordance with ARSD 74:36:11:01, the owner or operator shall conduct the performance test in accordance with 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M. The Secretary may approve an alternative method if a performance test specified in 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M is not applicable or required.

## 6.3 Representative performance test.

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.8(c), performance tests shall be conducted under such conditions as the Secretary shall specify to the owner or operator based on the representative performance of the unit being tested. The owner or operator shall make available to the Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in this permit.

### 6.4 Submittal of test plan.

In accordance with ARSD 74:36:11:01, the owner or operator shall submit the proposed testing procedures to the Secretary at least 30 days prior to any performance test. The Secretary will notify the owner or operator if the proposed test procedures are approved or denied. If the proposed test procedures are denied, the Secretary will provide written notification that outlines what needs to be completed for approval.

#### 6.5 Notification of test.

In accordance with ARSD 74:36:11:03, the owner or operator shall notify the Secretary at least 10 days prior to the start of a performance test to arrange for an agreeable test date when the Secretary may observe the test. The Secretary may extend the deadline for the performance test in order to accommodate schedules in arranging an agreeable test date.

#### **6.6** Performance test report.

In accordance with ARSD 74:36:20:15(10), the owner or operator shall submit a performance test report to the Secretary within 60 days after completing the performance test or by a date designated by the Secretary. The performance test report shall contain the following information:

- 1. Description of the process and the air pollution control system being tested;
- 2. Sampling location description(s);
- 3. A description of sampling and analytical procedures and any modifications to standard procedures;
- 4. Test results expressed in units consistent with the applicable emission limit;
- 5. Quality assurance procedures and results;
- 6. Records of unit's operating conditions during the test (e.g., operating rate, fuel type);
- 7. Raw data sheets for field sampling and field and laboratory analyses;
- 8. Documentation of calculations:
- 9. All data recorded and used to establish parameters for compliance monitoring; and
- 10. Any other information required by the test method.

## 7.0 MACT – SUBPART LLL FOR PORTLAND CEMENT PLANTS

## 7.1 Opacity limit.

In accordance with ARSD 74:36:08:21, as referenced to 40 CFR § 63.1345, the owner or operator of shall not discharge into the ambient air an air contaminant of a density greater than 10 percent opacity from any permitted unit, operation, or process listed in Table 1-1.

## 7.2 Operation and maintenance plan requirements.

In accordance with ARSD 74:36:08:21, as referenced to 40 CFR § 63.1347(a), the owner or operator shall prepare, a written operations and maintenance plan. The plan must be submitted to the Administrator for review and approval as part of the application for a Title V air quality operating permit and must include the following information:

- 1. Procedures for proper operation and maintenance of the permitted unit, operation, or process and air pollution control devices listed in Table 1-1 in order to meet the opacity limit noted in permit condition 7.1; and
- 2. Corrective actions to be taken when required by permit condition 7.4.

## 7.3 <u>Initial compliance requirements - opacity.</u>

In accordance with ARSD 74:36:08:21, as referenced to 40 CFR §§ 63.1348(a)(2) and 63.1349(b)(2), the owner or operator shall conduct an initial performance test on the permitted unit, operation, or process and air pollution control devices listed in Table 1-1 within 180 days of initial startup of the appropriate unit. The opacity test shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 9 and under conditions that exist when the unit or process is operating at the highest load or capacity level reasonably expected to occur. The maximum 6-minute average opacity exhibited during the test period shall be used to determine compliance. The duration of the opacity test shall be 3-hours (30 6-minute averages), except that the duration of the opacity test may be reduce to 1-hour if the following conditions apply:

- 1. There are no individual readings greater than 10 percent opacity; and
- 2. There are no more than three readings of 10 percent for the first 1-hour period.

### 7.4 Monthly monitoring for opacity limits.

In accordance with ARSD 74:36:08:21, as reference to 40 CFR §§ 63.1348(b)(1)(i), 63.1348(b)(3), 63.1350(f)(1), and 63.1350(f)(3) the owner or operator shall demonstrate compliance with the opacity limits in permit condition 7.1, on a periodic basis. Periodic monitoring shall be based on the amount of visible emissions from each unit and evaluated according to the following steps:

**Step 1:** If there are no visible emissions from a unit subject to an opacity limit, periodic monitoring shall consist of a visible emission reading. A visible emission reading shall consist of a visual survey of each unit in accordance with 40 CFR Part 60, Appendix A, Method 22, over a 10-minute period to identify if there are visible emissions. The visible emission reading must

be conducted while the unit is in operation. Visible emission readings on each unit shall be based on the following frequency:

- a. The owner or operator shall conduct a visible emission reading once per calendar month;
- b. If no visible emissions are observed from a unit in six consecutive monthly visible emission readings, the owner or operator may decrease the frequency of readings from monthly to semiannually for that unit; or
- c. If no visible emissions are observed from a unit in two consecutive semiannual visible emission readings, the owner or operator may decrease the frequency of testing of readings from semiannually to annually for that unit.

**Step 2:** If visible emissions are observed from a unit during a visible emissions reading conducted in Step 1, the owner or operator shall conduct a visible emission test on that unit to determine if the unit is in compliance with the opacity limit specified in in permit condition 7.1. The emission test shall be for thirty minutes (i.e. five 6-minute averages) and conducted in accordance with 40 CFR Part 60, Appendix A, Method 9. The maximum 6-minute average opacity exhibited during the test period shall be used to determine compliance. The visible emission test must be conducted while the unit is in operation. Visible emission tests shall be based on the following frequency:

- a. The visible emission test must be conducted within one hour of witnessing a visible emission from a unit during a visible emission reading;
- b. Initiate, within one-hour, the corrective actions specified in the operating and maintenance plan required in permit condition 7.2
- c. The owner or operator must conduct visible emission readings on a monthly basis as outlined in Step 1 until it qualifies and chooses to implement the reduced frequencies noted in Steps 1(b) and 1(c).

The person conducting the visible emission test must be certified in accordance with 40 CFR Part 60, Appendix A, Method 9.

### 7.5 Recordkeeping requirements.

In accordance with ARSD 74:36:08:21, as referenced to 40 CFR § 63.1355, the owner or operator shall maintain the following information:

- 1. Records of the occurrence and duration of each startup or shutdown;
- 2. Records of the occurrence and duration of each malfunction of operation or air pollution control:
- 3. Records of corrective actions taken to restore malfunction process and air pollution control to its normal or usual manner of operation; and
- 4. Records of the visible emission readings and visible emission tests.

#### 7.6 Reporting requirements.

In accordance with ARSD 74:36:08:21, as referenced to 40 CFR §§ 63.1354(b)(9) and 63.1354(c), the owner or operator shall submit a semiannual report to the Secretary. The semiannual reports shall include a summary of the following information on each permitted unit, operation, or process and air pollution control devices listed in Table 1-1:

- 1. Name of the facility, permit number, reference to this permit condition, identify the submittal as a semiannual report, and calendar dates covered in the reporting period;
- 2. All failures to comply with any provision of the operations and maintenance plan developed in accordance with permit condition 7.2; and
- 3. The report shall identify actions taken to minimize emissions during malfunctions. The report shall also include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limit to be exceeded.

The semiannual report shall be postmarked no later than the 30<sup>th</sup> day following the end of each semiannual period (January 30<sup>th</sup> and July 30<sup>th</sup>).

#### 8.0 RECOMMENDATION

A review of this facility indicates it can operate in compliance with South Dakota's Air Pollution Control rules and the federal Clean Air Act. The Secretary, therefore, recommends that the Board of Minerals and Environment issue this construction permit with conditions to ensure compliance with SDCL 34A-1 and the federal Clean Air Act. Any questions pertaining to the Secretary's recommendation should be directed to Jim A. Anderson, Engineer II at (605) 394-2229.